

MARISSEN  
Serial No. 10/534,100  
March 12, 2007

**AMENDMENTS TO THE CLAIMS**

The following claim set replaces all prior versions, and listings, of claims in the application:

1. (currently amended) Artificial intervertebral disc comprising:

a nucleus of flexible material with the shape of a flattened body having a lower surface, an upper surface, and a lateral surface connecting the lower and upper surfaces to one another, and  
at least one traction-resistant fibre having a length which is at least ten times a circumference of the nucleus, the fibre being continuously wound around each of the lower, upper and lateral surfaces forming substantially radially oriented continuous windings which run substantially along geodetic lines about the lower and upper surfaces of the flattened body.

2. (previously presented) Intervertebral disc according to claim 1, wherein the lower and the upper surfaces are of a rounded shape.

3. (canceled)

4. (previously presented) Intervertebral disc according to claim 1, wherein at least one traction-resistant fibre has a tensile strength of at least 1 GPa and a modulus of at least 10 GPa.

5. (previously presented) Intervertebral disc according to claim 1, wherein at least one traction-resistant fibre consists of polyethylene.

6. (previously presented) Intervertebral disc according to claim 1, comprising at least one laterally wound traction-resistant fibre which is wound completely around only the lateral surface of the flattened body.

7. (previously presented) Intervertebral disc according to claim 1, further comprising a fabric positioned between the nucleus and at least one traction-resistant fibre running along at least the lateral surface and at least parts of the lower and upper surfaces.

8. (original) Intervertebral disc according to claim 7, wherein the fabric consists of traction-resistant fibres.

9. (previously presented) Intervertebral disc according to claim 8, wherein the traction-resistant fibres of the fabric have a tensile strength of at least 1 GPa and a modulus of at least 10 GPa.

10. (previously presented) Intervertebral disc according to claim 1, wherein the lower and the upper surfaces are of a circular shape.

11. (previously presented) Intervertebral disc according to claim 1, wherein the lower and the upper surfaces are of an ellipsoid shape.

12. (cancelled)

13. (previously presented) Intervertebral disc according to claim 6, wherein at least one laterally wound traction-resistant fibre has a length which is at least ten times a circumference of the nucleus.

14. (previously presented) Intervertebral disc according to claim 1, comprising several traction-resistant fibres, each being of a length sufficient to be wound around the lower, upper and lateral surfaces, the fibre establishing substantially radially oriented windings on the lower and upper surfaces of the flattened body.

15. (previously presented) Intervertebral disc according to claim 6, comprising several laterally wound traction-resistant fibres, each being of a length sufficient to be wound completely around only the lateral surface of the flattened body.

16. (currently amended) An artificial intervertebral disc comprising:

a nucleus of flexible material with the shape of a flattened body having a lower surface, an upper surface, and a lateral surface defining a circumference of the flattened body and joining the lower and upper surfaces to one another; and  
at least one traction-resistant fibre having a length which is at least ten times the circumference of the flattened body, the fibre being wound around the lower, upper and lateral surfaces of the flattened body and establishing substantially radially oriented windings which run substantially along geodetic lines on the lower and upper surfaces thereof.

17. (previously presented) The intervertebral disc as in claim 16, further comprising at least one lateral traction-resistant fibre having a length which is at least ten times the circumference of the flattened body and being wound around only the lateral surface thereof.

18. (previously presented) The intervertebral disc as in claim 17, wherein each traction-resistant fibre has a tensile strength of at least 1 GPa and a modulus of at least 10 GPa.

19. (currently amended) Artificial intervertebral disc comprising:

a nucleus of flexible material with the shape of a flattened body having a lower surface, an upper surface, and a lateral surface connecting the lower and upper surfaces to one another,  
at least one traction-resistant fibre continuously wound around each of the lower, upper and lateral surfaces forming substantially radially oriented continuous windings which run substantially along geodetic lines about the lower and upper surfaces of the flattened body; and

at least one laterally wound traction-resistant fibre having a length which is at least ten times a circumference of the nucleus which is wound completely around only the lateral surface of the flattened body.

20. (currently amended) Artificial intervertebral disc comprising:

a nucleus of flexible material with the shape of a flattened body having a lower surface, an upper surface, and a lateral surface connecting the lower and upper surfaces to one another,

at least one traction-resistant fibre continuously wound around each of the lower, upper and lateral surfaces forming substantially radially oriented continuous windings which run substantially along geodetic lines about the lower and upper surfaces of the flattened body; and

several laterally wound traction-resistant fibres, each being of a length sufficient to be wound completely around only the lateral surface of the flattened body.

21. (new) Artificial intervertebral disc comprising:

a nucleus of flexible material having a modulus of at most 50 MPa and the shape of a flattened body with a lower surface, an upper surface, and a lateral surface connecting the lower and upper surfaces to one another, and

at least one traction-resistant fibre having a length which is at least ten times a circumference of the nucleus, the fibre being continuously wound around each of the lower, upper and lateral surfaces forming substantially radially oriented continuous windings which run substantially along geodetic lines about the lower and upper surfaces of the flattened body.

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22. (new) Intervertable disc according to claim 1 or 21, wherein the continuous windings across the lower and upper surfaces of the flattened body are substantially radially oriented such that at least 50% of the windings follow a path whose smallest distance to a center of gravity of the lower and upper surfaces is at most equal to 30% of a largest dimension of the lower and upper surfaces.